

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
)  
Jong-Hyun KIM et al. )  
)  
Serial No.: Continuation Application Under ) Prior Group Art Unit: 2871 (anticipated)  
37 C.F.R. § 1.53(b) of Serial No. 09/432,572 )  
)  
Filed: June 26, 2001 ) Prior Examiner: D. Nguyen (anticipated)  
)  
For: A LIQUID CELL AND METHOD )  
FOR FABRICATING THAT )

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

**PRELIMINARY AMENDMENT**

Prior to the examination of the above application, please amend this application  
as follows:

**IN THE TITLE:**

Please change the title to read --A LIQUID CRYSTAL CELL AND METHOD OF  
MANUFACTURE--.

**IN THE SPECIFICATION:**

Please amend the specification as follows:

Page 8, replace the paragraph beginning on line 12 with the following new  
paragraph:

FIGs. 1(a) and (f) show steps in a conventional reverse-rubbing process.

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Page 8, replace the paragraph beginning on line 22 with the following new paragraph:

FIGs. 5(a) and (f) show steps in a process for fabricating a liquid crystal cell according to this invention.

Page 8, replace the paragraph beginning on line 24 with the following new paragraph:

FIGs. 6(a) and (f) show steps in a process for fabricating a liquid crystal cell according to this invention.

Page 9, replace the paragraph beginning on line 1 with the following new paragraph:

FIGs. 7(a)-(d) show cross sectional views of a TN mode liquid crystal cells according to this invention.

Page 9, replace the paragraph beginning on line 3 with the following new paragraph:

FIGs. 8(a)-(d) show cross-sectional views of ECB mode liquid crystal cells according to this invention.

Page 9, replace the paragraph beginning on line 6 with the following new paragraph:

FIGs. 9(a)-(d) show cross-sectional views of a bend mode liquid crystal cells according to this invention.

Page 9, replace the paragraph beginning on line 9 with the following new paragraph:

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FIGs. 10(a)-(d) show cross-sectional views of a IPS mode liquid crystal cell according to this invention.

Page 9, replace the paragraph beginning on line 12 with the following new paragraph:

FIGs. 11(a)-(g) show steps in a process for fabricating a multi-domain liquid crystal cell according to this invention.

Page 9, replace the paragraph beginning on line 15 with the following new paragraph:

FIGs. 12(a)-(g) show steps in a process for fabricating a multi-domain liquid crystal cell according to this invention.

Page 9, replace the paragraph beginning on line 18 with the following new paragraph:

FIGs. 13(a)-(f) show steps in a process for fabricating a multi-domain liquid crystal cell according to this invention.

Page 9, replace the paragraph beginning on line 21 with the following new paragraph:

FIGs. 14(a)-(j) show steps in a process for fabricating a multi-domain liquid crystal cell according to this invention.

**IN THE CLAIMS:**

Please cancel claims 1-8 and 10-58 without prejudice or disclaimer, amend claim 9, and add claim 84:

9. (Amended) A method of manufacturing a liquid crystal display, comprising the steps of:

providing first alignment layer on a first substrate;

rubbing said first alignment layer such that said first alignment layer has a first pretilt angle associated therewith;

providing a second alignment layer on a second substrate:

exposing said second alignment layer to unpolarized light in an oblique direction, such that said second alignment layer includes a pretilt angle and a pretilt direction; and

providing a liquid crystal material between said first and second substrates.

--84. The method of manufacturing a liquid crystal display according to claim 9, wherein the light includes unpolarized light.--

**IN THE ABSTRACT:**

Please delete the abstract and insert the attached substitute abstract.

37 C.F.R. 1.72(b).

**REMARKS**

Applicants have amended the specification to correct typographical and grammatical errors. Applicants have also provided a replacement abstract. Applicants have canceled claims 1-6, 8, 10, and 39-46 as directed toward subject matter recited in prior application Serial No. 09/432,572, now allowed. Applicants have canceled claims 11-38 as directed toward subject matter recited in prior application Serial Number 08/777,126, now issued U.S. Patent No. 6,091,471. Applicants have canceled claims

47-58 as directed to subject matter recited in co-pending U.S. Patent Application Serial No. 09/736,383. Claim 7 has been canceled without prejudice or disclaimer, and the limitations contained therein have been added to claim 1. Applicants have amended claim 9 to more appropriately claim Applicants' invention and to correct for typographical errors, added new claim 59 to claim additional aspects of Applicants' invention, and canceled claims 1-8 and 10-58, which have been allowed or continued in related applications.

In an Advisory Action dated February 21, 2001 in the parent application, 09/432,572, the Examiner maintained his rejection of claims 9 and 62 under 35 U.S.C. § 102(b) as anticipated by Schadt et al., Jpn. J. Appl. Phys. Vol. 31 (1992) pp. 2155-64 ("Schadt").

Applicants assert that Schadt does not teach each and every element of the claimed invention. For example, nowhere does Schadt teach "exposing said second alignment layer to unpolarized light in an oblique direction," as claimed in independent claim 9.

Accordingly, Applicants believe claim 9 is in condition for allowance and claim 59 should be allowed at least because of its dependence from claim 9.

In view of the foregoing remarks, Applicants submit that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application, and therefore request the timely allowance of the pending claims.

If there is any fee due in connection with the filing of this Preliminary  
Amendment, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
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Dated: June 26, 2001

By:   
Andrew Chanho Sonu  
Reg. No. 33,457

2001 JUN 26 PM 4:00

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Appendix

IN THE SPECIFICATION:

page 8, line 12, change "FIG. 1 is showing" to --FIGs. 1 (a)-(f) show steps in--;

line 22, change "FIG. 5 is one" to --FIGs. 5(a)-(f) show steps in a--;

line 24, change "FIG. 6 is another" to --FIGs. 6(a)-(f) show steps in a--;

page 9, line 1, change "FIG. 7 is a showing a cross-sectional view of a" to

--FIGs. 7(a)-(d) show cross-sectional views of--;

line 2, change "cell" to --cells--;

line 3, change "FIG. 8 is a showing a cross-sectional view of a" to

--FIGs. 8(a)-(d) show cross-sectional views of--;

line 4, change "cell" to --cells--;

line 6, change "FIG. 9 is a showing a cross-sectional view of a" to

--FIGs. 9(a)-(d) show cross-sectional views of--;

line 7, change "cell" to --cells--;

line 9, change "FIG. 10 is a showing a cross-sectional view of" to

--FIGs. 9(a)-(d) show cross-sectional views of--;

line 12, change "FIG. 11 is a showing one" to --FIGs. 11 (a)-(g) show step

in a--;

line 15, change "FIG. 12 is another" to --FIGs. 11 (a)-(g) show steps in a--;

line 18, change "FIG. 13 is another" to --FIGs. 13(a)-(f) show steps in a--;

and

line 21, change "FIG. 14 is another" to --FIGs. 14(a)-(j) show steps in a--;

IN THE CLAIMS

9. (Amended) A method of manufacturing a liquid crystal display, comprising the steps of:

providing first alignment layer on a first substrate;

rubbing said first alignment layer such that said first alignment layer has a first pretilt angle associated therewith;

providing a second alignment layer on a second substrate:

exposing said second alignment layer to unpolarized light in an oblique direction, such that said second alignment layer includes a pretilt angle and a pretilt direction; and

providing a liquid crystal material between said first and second substrates.

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A liquid crystal cell having a first substrate with a rubbed layer provided thereon, a second substrate with a photo-aligned layer provided thereon, and a liquid crystal material provided between the substrates.

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